AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A power amplifier pre-distorter formed by a discrete-time filter structure with filter taps, wherein said filter structure includes:

an individual look-up table for each filter tap, each look-up table representing a sampled polynomial in a variable representing signal amplitude;

means for selecting, from each filter tap look-up table a filter coefficient that depends on the amplitude of a corresponding complex signal value to be multiplied by the filter tap; and

means for compensating for changes in at least one predetermined parameter,

wherein said parameter represents amplifier temperature~~,~~ and said compensating for changes in amplifier temperature is not dependent on memory effects of the amplifier.

2. (Previously Presented) The pre-distorter of claim 1, wherein the discrete-time filter structure comprises a FIR filter structure.

3. (Previously Presented) The pre-distorter of claim 1, wherein the discrete-time filter structure comprises an IIR filter structure.

4. (Previously Presented) The pre-distorter of claim 1, wherein the discrete-time filter structure comprises a combination of a FIR filter structure and an IIR filter structure.

5. Canceled.

6. (Previously Presented) The pre-distorter of claim 1, wherein said parameter also represents average pre-distorter input signal power.

7. Canceled.

8. (Previously Presented) The pre-distorter of claim 1, wherein said parameter also represents power amplifier transistor bias.

9. (Previously Presented) The pre-distorter of claim 1, wherein the means for selecting is arranged to select, from each filter tap look-up table, a filter coefficient that depends on the instantaneous signal power of a corresponding complex signal value to be multiplied by the filter tap.

10. (Currently Amended) A base station including a power amplifier pre-distorter formed by a discrete-time filter structure with filter taps, wherein said filter structure includes

an individual look-up table for each filter tap, each look-up table representing a sampled polynomial in a variable representing signal amplitude;

selection circuitry arranged to select, from each filter tap look-up table, a filter coefficient that depends on the amplitude of a corresponding complex signal value to be multiplied by the filter tap; and

compensation circuitry arranged to compensate for changes in at least one predetermined parameter,

wherein said parameter represents amplifier temperature and said compensation for changes in amplifier temperature is not dependent on memory effects of the amplifier.

11. (Previously Presented) The base station of claim 10, wherein the discrete-time filter structure comprises a FIR filter structure.

12. (Previously Presented) The base station of claim 10, wherein the discrete-time filter structure comprises an IIR filter structure.

13. (Previously Presented) The base station of claim 10, wherein the discrete-time filter structure comprises a combination of a FIR filter structure and an IIR filter structure.

14. Canceled.

15. (Previously Presented) The base station of claim 10, wherein said parameter also represents average pre-distorter input signal power.

16. Canceled.

17. (Previously Presented) The base station of claim 10, wherein said parameter also represents power amplifier transistor bias.

18. (Previously Presented) The base station of claim 10, wherein the selection circuitry is arranged to select, from each filter tap look-up table, a filter coefficient that depends on the instantaneous signal power of a corresponding complex signal value to be multiplied by the filter tap.

19. (Previously Presented) The pre-distorter of claim 1, wherein pre-distortion (PD(n,z)) for the power amplifier stored in the individual look-up tables is approximated as:

$$PD(n,z) = \sum_{q=0}^{Q} x(n-q)\left[\sum_{m=0}^{M-1} T_{qm}\left(\left|x(n-q)\right|\right) z^{m}\right]$$

where z is the predetermined parameter, q represents time, x(n) is an input signal sample, $T_{qm}(|x(n-q)|)$ is a series of polynomials in the absolute value of the complex variable $x(n-q)$, and M is a number of polynomial terms in the series.

20. (Currently Amended) ~~The base station of claim 10~~A base station including a power amplifier pre-distorter formed by a discrete-time filter structure with filter taps, wherein said filter structure includes

an individual look-up table for each filter tap, each look-up table representing a sampled polynomial in a variable representing signal amplitude;

selection circuitry arranged to select, from each filter tap look-up table, a filter coefficient that depends on the amplitude of a corresponding complex signal value to be multiplied by the filter tap; and

compensation circuitry arranged to compensate for changes in at least one predetermined parameter,

wherein said parameter represents amplifier temperature,

wherein pre-distortion (PD(n,z)) for the power amplifier stored in the individual look-up tables is approximated as:

$$PD(n,z) = \sum_{q=0}^{Q} x(n-q)\left[\sum_{m=0}^{M-1} T_{qm}\left(\left|x(n-q)\right|\right) z^{m}\right]$$

where z is the predetermined parameter, q represents time, x(n) is an input signal sample, $T_{qm}(|x(n-q)|)$ is a series of polynomials in the absolute value of the complex variable $x(n-q)$, and M is a number of polynomial terms in the series.

21. (Currently Amended) A method for pre-distorting a signal to be input to a power amplifier using a pre-distorter formed by a discrete-time filter structure with filter taps, comprising:

providing a look-up table for each filter tap that represents a sampled polynomial in a variable representing signal amplitude;

selecting from each filter tap look-up table a filter coefficient that depends on the amplitude of a corresponding complex signal value to be multiplied by the filter tap;

compensating for changes in at least one predetermined parameter,

wherein said parameter represents amplifier temperature and said compensating for changes in amplifier temperature is not dependent on memory effects of the amplifier.

22. (Previously Presented) The method of claim 21, wherein said parameter also represents average pre-distorter input signal power.

23. (Previously Presented) The method of claim 21, wherein said parameter also represents power amplifier transistor bias.

24. (Previously Presented) The method of claim 21, wherein a filter coefficient from each filter tap look-up table is selected that depends on the instantaneous signal power of a corresponding complex signal value to be multiplied by the filter tap.

25. (Previously Presented) The method of claim 21, wherein pre-distortion (PD(n,z)) for the power amplifier stored in the individual look-up tables is approximated as:

$$PD(n,z) = \sum_{q=0}^{Q} x(n-q)\left[\sum_{m=0}^{M-1} T_{qm}\left(\left|x(n-q)\right|\right)z^{m}\right]$$

where z is the predetermined parameter, q represents time, x(n) is an input signal sample, $T_{qm}(|x(n-q)|)$ is a series of polynomials in the absolute value of the complex variable $x(n-q)$, and M is a number of polynomial terms in the series.